Lab Assignment

Semester: Spring 2024

Student Name: Nadim Mahmud Rishan

Student ID: 221-35-952

Batch: 37th **Section:** C

Course Code: SE226

Course Name: Data Communication and Computer Networking Lab

Course Teacher Name: Nadira Islam

Designation: Lecturer, Department of ITM, DIU

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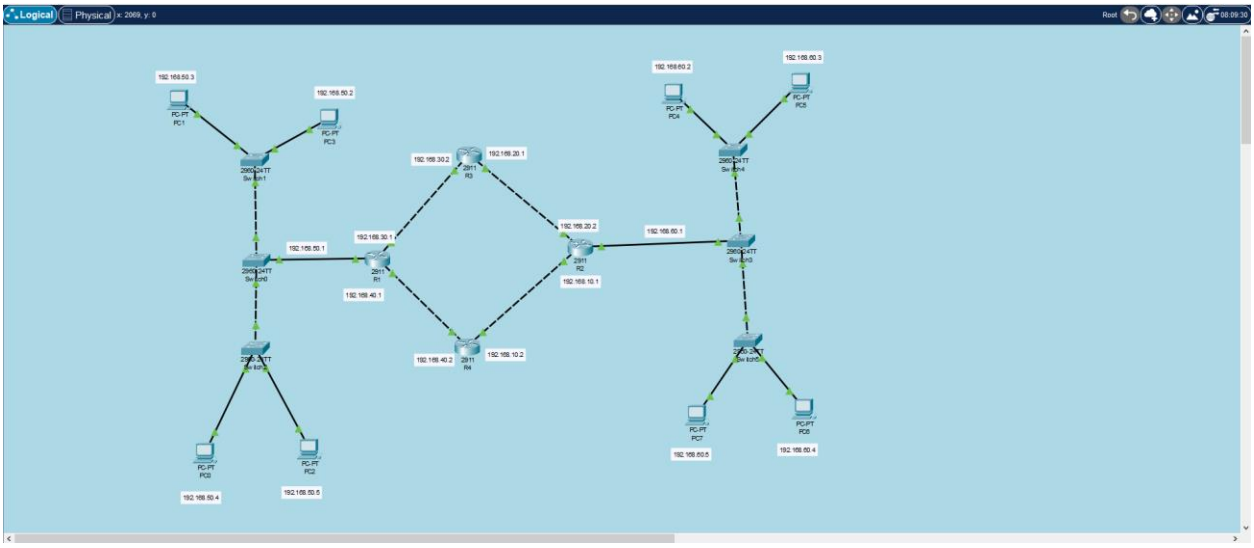
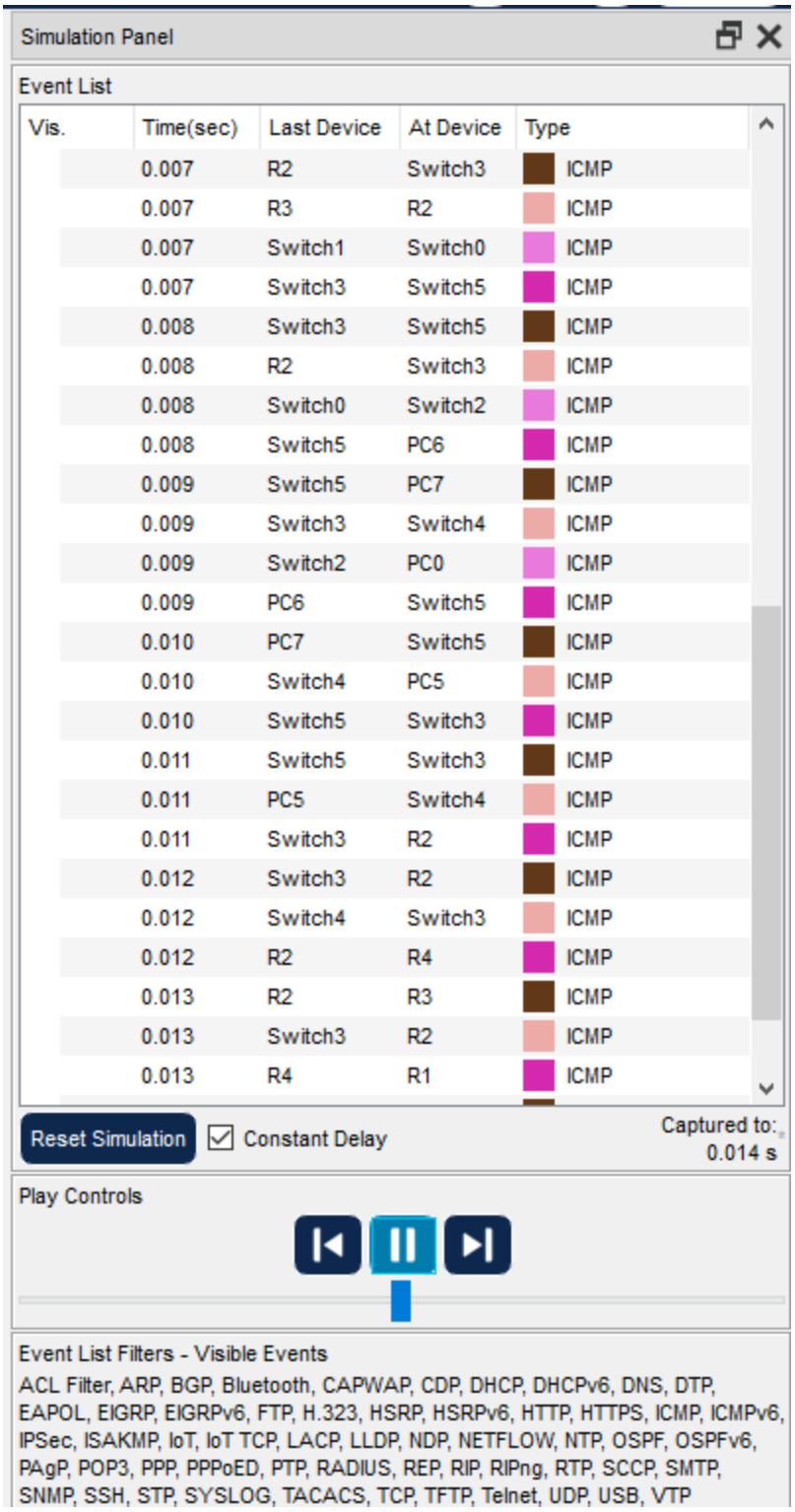
Lab Assignment
Dynamic (RIP) and static Routing

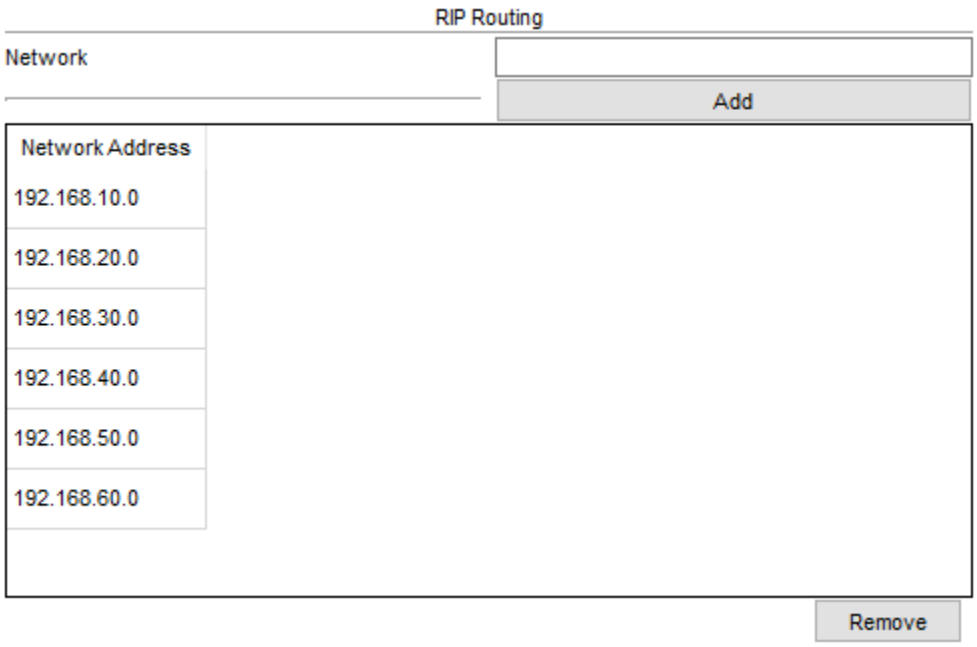
Dynamic (RIP) Routing:

Dynamic routing entails determining the optimal route for data transmission across a network. In this procedure, a router can send data via multiple paths, adapting to prevailing conditions within the communication circuits to successfully reach its destination.



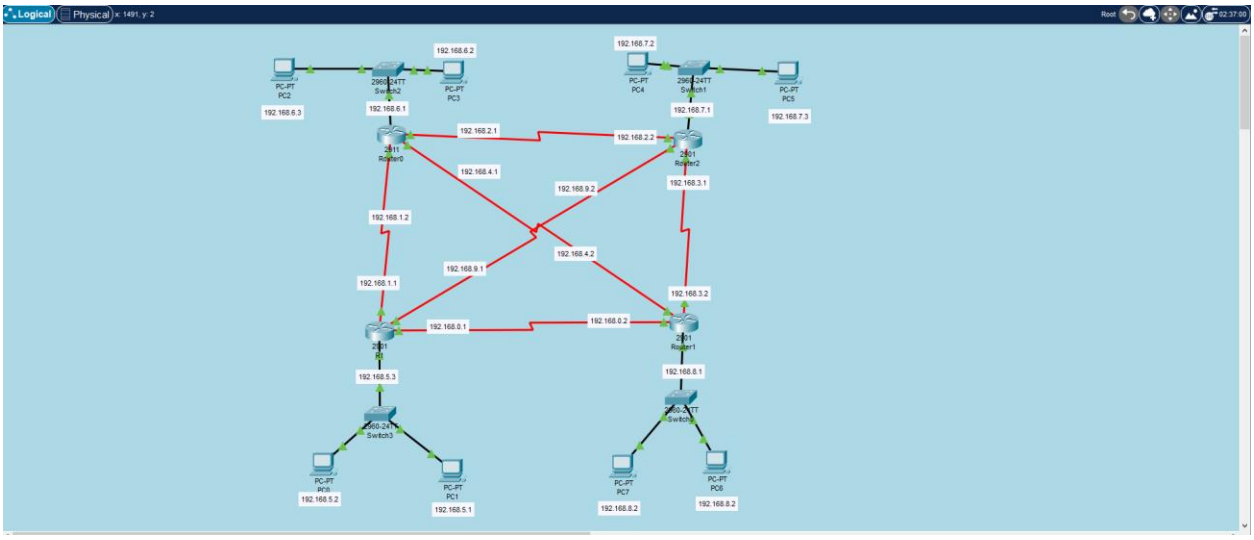

Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.007 R2 Switch3 ICMP
0.007 R3 R2 ICMP
0.007 Switch1 Switch0 ICMP
0.007 Switch3 Switch5 ICMP
0.008 Switch3 Switch5 ICMP
0.008 R2 Switch3 ICMP
0.008 Switch0 Switch2 ICMP
0.008 Switch5 PC6 ICMP
0.009 Switch5 PC7 ICMP
0.009 Switch3 Switch4 ICMP
0.009 Switch2 PC0 ICMP
0.009 PC6 Switch5 ICMP
0.010 PC7 Switch5 ICMP
0.010 Switch4 PC5 ICMP
0.010 Switch5 Switch3 ICMP
0.011 Switch5 Switch3 ICMP
0.011 PC5 Switch4 ICMP
0.011 Switch3 R2 ICMP
0.012 Switch3 R2 ICMP
0.012 Switch4 Switch3 ICMP
0.012 R2 R4 ICMP
0.013 R2 R3 ICMP
0.013 Switch3 R2 ICMP
0.013 R4 R1 ICMP
Reset Simulation
Constant Delay
Captured to:
0.014 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC7	ICMP		0.000	N	1	(edit)	
	Successful	PC0	PC3	ICMP		0.000	N	2	(edit)	
	Successful	PC0	PC5	ICMP		0.000	N	3	(edit)	



Static Routing:

Static routing involves utilizing a pre-defined routing table that is manually configured, as opposed to relying on dynamic routing protocols for traffic management. It's alternatively termed as nonadaptive routing. Static routing comes into play when there is a specific or preferred pathdesignated for traffic to reach its intended destination.

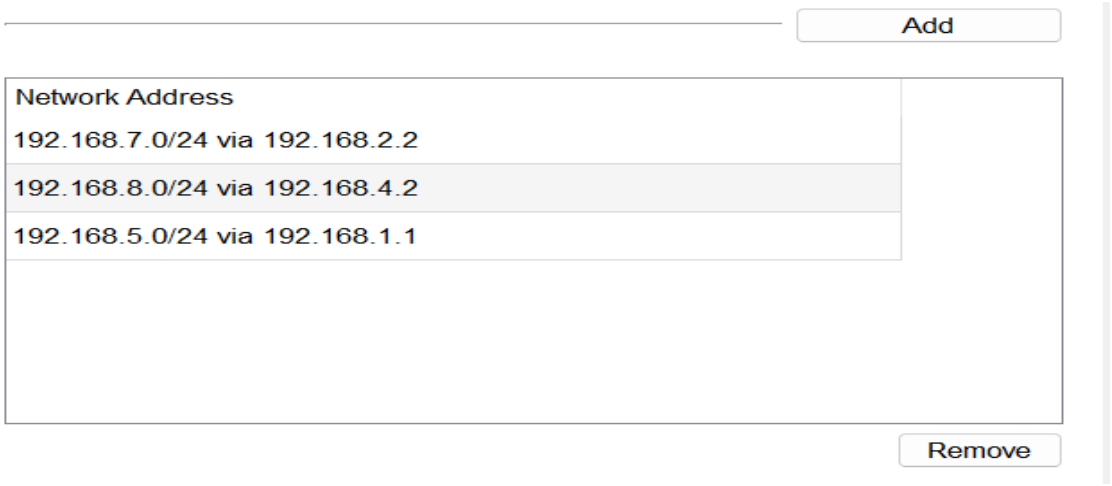


Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	PC2	ICMP
	0.001	PC2	Switch2	ICMP
	0.003	Switch2	Router0	ICMP
	0.006	Router0	Router1	ICMP
	0.008	Router1	Switch0	ICMP
	0.010	Switch0	PC7	ICMP
	0.012	PC7	Switch0	ICMP
	0.014	Switch0	Router1	ICMP
	0.017	Router1	Router0	ICMP
	0.018	Router0	Switch2	ICMP
	0.020	Switch2	PC2	ICMP
Visible	0.653	--	Switch3	STP

Successful status :

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	PC2	PC7	ICMP		0.000	N	0	(edit)



Which one is better let's find out:

Considering the routing mechanisms within our network, static and dynamic routing each offer distinct advantages suited to varying circumstances. For smaller networks where stringent security measures and manual route management are preferred, static routing proves superior.

Conversely, in larger networks characterized by frequent device changes, dynamic routing emerges as the more favorable option.